

Notice of Allowability

Application No.

10/727,545

Examiner

Gregory F. Cunningham

Applicant(s)

PHAN, GIA CHUONG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment received 1/4/2006.
2. ☒ The allowed claim(s) is/are 1-34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/151,287.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
- ☐ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other _____

DETAILED ACTION

1. This action is responsive to amendment filed 1/04/2005.
2. The disposition of the claims is as follows: claims 1 - 34 are pending in the application. Claims 1, 21, 30 and 31 are independent claims.

Claim Rejections - 35 USC § 112

3. In view of the amended claim 31, 112 rejection is withdrawn.

Double Patenting Rejection

4. In view of amended, terminal disclaimer and review of cited references, doubling patenting rejection is withdrawn.

Allowable Subject Matter

5. Claims 1 - 34 are allowed.
6. The following is an examiner's statement of reasons for allowance:
Applicant's independent claims 1, 21, 30 and 31 stand novel over the related prior art. For instance, while the related art of Maher (US Patent 5,559,529A), discloses a display comprising pixels and dots with variably generated pixels from dots, at col. 2, lines 6 – 11; and
wherein pixels form units dynamically generated by grouping adjacent dots so adjacent pixels overlap physically, at Fig. 1, 2 and 4, and col. 1, lines 39 – 40 and col. 2, lines 17 – 22.
While the independent claims 1, 21, 30 and 31 of the instant application incorporate key claim elements that render the application novel over the Maher. Specifically noted for claims 1

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and 21 is “a plurality of static pixel groups, each static pixel group of the plurality of static pixel groups comprising a plurality individual elements grouped in a predetermined manner similar or identical to other static pixel groups in the plurality of static pixel groups; and a plurality of dynamic pixel groups, at least one dynamic pixel group of the plurality of dynamic pixel groups comprises a plurality of individual elements selected from at least two adjacently situated pixel groups of the plurality of static pixel groups, wherein each one of the plurality of static pixel groups do not share individual elements from other individual static pixel groups, and wherein the dynamically-generated dynamic pixel groups are superimposed over the static pixel groups subsequently in a predetermined sequence and manner vertically and/or horizontally, thus enabling an enhanced resolution in a vertical and/or a horizontal direction for a given resolution to be obtained for a given resolution for individual element addressed displays wherein the dynamically-generated second pixels are superimposed over the first pixels vertically and horizontally in a symmetric way, thus enabling a symmetrically enhanced resolution in a vertical and a horizontal direction for a given resolution to be obtained for a given resolution for a dot addressed display”.

Whereas claim 30 provides for “first pixels each including a plurality of dots grouped in a predetermined manner, wherein each group of dots grouped in a predetermined manner is formed similarly or identically; and second pixels variably and dynamically generated from dots forming the first pixel groups, at least one second pixel includes a plurality of dots selected from at least two adjacently situated first pixels, wherein each first pixel does not share common dots, and wherein the dynamically-generated second pixels are superimposed over the first pixels subsequently in a predetermined sequence and manner vertically and/or horizontally, thus

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enabling an enhanced resolution in a vertical and/or a horizontal direction for a given resolution to be obtained for a given resolution for dot addressed displays”

As for claim 31, “generating a plurality of first pixel groups, each first pixel group of the plurality of first pixel groups comprising 4 dots having one of the colors red, green and blue grouped in a predetermined manner, wherein each group of dots grouped in a predetermined manner is formed similarly or identically; generating a plurality of second pixel groups, at least one second pixel group of the plurality of second pixel groups includes 4 dots selected from at least two adjacently situated first pixels, wherein each first pixel does not share common dots, wherein the total RGB pixel data of a conventional RGB stripe pixels display of a resolution $(X-1).times.(Y-1)$ is distributed into 4 frames of the quad pixels display of a static resolution $X/2.times.Y/2$ wherein $P(i,j)$ represents the RGB stripe pixel at the position of i in the horizontal X axis and j in the vertical Y axis of the conventional RGB stripe display wherein $QP(i,j)$ represents the quad pixel of the corresponding quad pixels display at the position of i in the horizontal X axis and j in the vertical Y axis wherein $MD(i,j)$ represents the main dot at the upper left quadrant of the quad pixel $QP(i,j)$ wherein the quad pixels from one of the 4 frames of the quad pixels display are formed using the RGB value of the corresponding RGB stripe pixels of the conventional display $QP(i,j)=P(i,j)$ $i=1$ to $(X-1)$ step 2 $j=1$ to $(Y-1)$ step 2 wherein the quad pixels from one of the 4 frames of the quad pixels display are formed using the RGB value of the corresponding RGB stripe pixels of the conventional display $QP(i,j)=P(i,j)$ $i=2$ to $(X-1)$ step 2 $j=1$ to $(Y-1)$ step 2 wherein the quad pixels from one of the 4 frames of the quad pixels display are formed using the RGB value of the corresponding RGB stripe pixels of the conventional display $QP(i,j)=P(i,j)$ $i=1$ to $(X-1)$ step 2 $j=2$ to $(Y-1)$ step 2 wherein the quad pixels from one of

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the 4 frames of the quad pixels display are formed using the RGB value of the corresponding RGB stripe pixels of the conventional display $QP(i,j)=P(i,j)$ $i=2$ to $(X-1)$ step 2 $j=2$ to $(Y-1)$ step 2".

Therefore as claimed by the combined elements of amended independent claim 1, 21, 30 and 31, the cited references and prior art of record lack separately and in combination the elements of amended claims. Claims 2-20, 22-29 and 32-34 are dependent upon independent claims 1, 21 and 31, respectively, and therefore are allowed.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Responses

8. Responses to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231. If applicant desires to fax a response, (703) 872-9306 may be used for formal communications.

Inquiries

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory F. Cunningham whose telephone number is (571) 272-7784.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Greg Cunningham

Examiner

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3/14/2006


Kee M. Tung
Primary Examiner